

Communication Specification

- Standard Version -
1.0

1 Communication Format

1.1. Protocol

The RS485Serial Communication Specification

No.	Item	Setting
1	Transfer line specification	RS-485
2	Transfer speed	38400bps
3	Check sum	Yes
4	Data bits	8 bit
5	Parity check	None
6	Stop bits	1 bit

1.2. Command Structure

Address	Instruction	Data Message	Checksum	End Character
1-byte	2-byte	6-byte	2-byte	2-byte

Checksum is used to confirm the Command to Data Message all character, its authentication method. Converted to Binary output instruction after the accumulation of all the bits, and then converted to hexadecimal.

Example: Output Command “7000”

Instruction	Binary	Hexadecimal	Checksum
7000	"0111" + "0000" + "0000" + "0000"	0x03	3

2 Message List

No	Instruction	Soft.	Firm.	Description
1	6100	→		High Voltage Pin On
2	610A	←		High Voltage Pin On Confirm
3	6200	→		High Voltage Pin Off
4	620A	←		High Voltage Pin Off Confirm
5	6300	→		The power supply parameters Request
6	630A	←		The power supply parameters Response

3 Message Details

3.1. (6100)High Voltage Pin On

Index	Item	Value	Description
0	address	0xA1	
1	Command	0x61	
2		0x00	
3	Spare area	0x00	0: (Don't take soft rev) 不带软启, 1: 带软启 (take soft rev)
4	Hv_Soft	0x00	
5	Setting HV Value		User Setting HV Value(*100)
6			
7	Setting mA Value		User Setting mA Value(*1)
8			
9	Checksum		Checksum Value
10			
11	End Character	0x00	Fixed Value
12		0x0D	

Example: following are setting values of 15Kv 600mA.

Setting Value is accurate to one decimal places. Setting HV/mA value is value multiplied by ten and converted to hexadecimal. 15kV→1500→0x05DC. 600mA→600→0x0258.

A1 61 00 00 00 05 DC 02 58 00 11 00 0D

3.2. (610A) High Voltage Pin On Confirm

Index	Item	Value	Description
0	address	0XA1	
1	Command	0x61	
2		0x0A	
3	Spare area	0x00	Unused
4		0x00	
5	Setting HV Value		The Setting HV Value(*100)
6			
7	Setting mA Value		The Setting mA Value(*1)
8			
9	Checksum		Checksum Value
10			
11	End Character	0x00	Fixed Value
12		0x0D	

3.3. (6200) High Voltage Pin Off

Index	Item	Value	Description
0	address	0XA1	
1	Command	0x62	
2		0x00	
3	Value	0x00	Unused
4		0x00	
5		0x00	Unused
6		0x00	
7		0x00	Unused
8		0x00	
9	Checksum		Checksum Value
10			
11	End Character	0x00	Fixed Value
12		0x0D	

3.4. (620A) High Voltage Pin Off Confirm

Index	Item	Value	Description
0	address	0XA1	
1	Command	0x62	
2		0x0A	
3	Value	0x00	Unused
4		0x00	
5		0x00	Unused
6		0x00	
7		0x00	Unused
8		0x00	
9	Checksum		Checksum Value
10			
11	End Character	0x00	Fixed Value
12		0x0D	

3.5. (6300) The power supply parameters Request

Index	Item	Value	Description
0	address	0XA1	
1	Command	0x63	
2		0x00	
3	Value	0x00	Unused
4		0x00	
5		0x00	Unused
6		0x00	
7		0x00	Unused
8		0x00	
9	Checksum		Checksum Value
10			
11	End Character	0x00	Fixed Value
12		0x0D	

3.6. (630A)The power supply parameters Response

Index	Item	Value	Description
0	address	0XA1	
1	Command	0x63	
2		0x0A	
3	STATE		See the status table for details
4			
5	Real Voltage		Respond to the actual voltage value(Multiply by 100)
6			
7	Real Current		Respond to the actual current value(Multiply by 1)
8			
9	Checksum		Checksum Value
10			
11	End Character	0x00	Fixed Value
12		0x0D	

Status bit description

bit Byte	7	6	5	4	3	2	1	0
[3]	POWER	HV ON	CONST HV	CONST MA	CONST POW	OVER VOL	INV OVER I	INV OVER TEMP
bit Byte	7	6	5	4	3	2	1	0
[4]	HV OVER TEMP	SPARK	AC FAULT	EMERGENCY	INTERLOCK	485/PLC	Unused	Unused